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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,564	07/25/2003	Jeffrey Paul Witte	100201496-2	5232

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P. O. Box 272400  
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EXAMINER	
NGUYEN, TUNG X	
ART UNIT	PAPER NUMBER
2829	

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/627,564	WITTE, JEFFREY PAUL	
	Examiner	Art Unit	
	Tung X Nguyen	2829	<i>an</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on the continuation filed on 7/25/03.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/25/03</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,714,035.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitation of "said IC includes at least one node operable to stimulated to a stuck-at fault condition by a certain frequency of electromagnetic (EM) radiation" as recited in claim 1 of the present application will operate/perform the same/similar functions as the limitation of "said IC includes at least one node selected from a node list associated with said IC such that said at least one node is operable to be simulated to a stuck-at fault condition by a certain frequency of electromagnetic (EM) radiation" as recited in claim 1 of the U.S Patent No. 6,714,035.

As to claim 2, claim 2 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 2 of the present application.

As to claim 3, claim 3 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 3 of the present application.

As to claim 4, claim 4 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 4 of the present application.

As to claim 5, claim 5 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 5 of the present application.

As to claim 6, claim 8 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 6 of the present application.

As to claim 7, claim 9 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 7 of the present application.

3. Claims 8-11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10-15 of U.S. Patent No. 6,714,035.

As to claim 8, although the conflicting claims (claim 8 of the present application and claims 1 and 10 of the U.S. Patent No. 6,714,035) are not identical, they are not patentably distinct from each other because the limitation of "stimulating a select number of nodes associated with said IC with a certain frequency of electromagnetic (EM) radiation" as recited in claim 8 of the present application will operate/perform the same/similar functions as the limitation of "said IC includes at least one node selected from a node list associated with said IC such that said at least one node is operable to be simulated to a stuck-at fault condition by a certain frequency of electromagnetic (EM) radiation" as recited in claims 1 and 10 of the U.S. Patent No. 6,714,035.

As to claim 9, claims 5 and 10 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 9 of the present application.

As to claim 10, claim 14 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 10 of the present application.

As to claim 11, claim 15 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 11 of the present application.

4. Claims 12-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 16-21 of U.S. Patent No. 6,714,035.

As to claim 12, although the conflicting claims are not identical, they are not patentably distinct from each other because the limitation of "*means for stimulating a stuck-at fault condition in a select number of nodes associated with said IC with a certain frequency of electromagnetic (EM) radiation*" as recited in claim 12 of the present application will operate/perform the same/similar functions as the limitation of "*means for creating a stuck-at fault condition at a select number of nodes associated with said IC, and stimulated to stuck-at fault condition by a certain frequency of electromagnetic (EM) radiation*" recited in claims 1 and 16 of the U.S. Patent No. 6,714,035.

As to claim 13, claim 19 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 13 of the present application.

As to claim 14, claim 20 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 14 of the present application.

As to claim 15, claim 21 of the U.S. Patent No. 6,714,035 discloses the same limitation as recited in claim 15 of the present application.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Bruce (u.s.p 6,177,989).

As to claims 1, Bruce discloses in Fig. 2, 3, a system comprising: a device under test (DUT 200) assembly including said IC, wherein the IC includes at least one node (see figure 2) operable to be stimulated to a stuck-at fault condition by a certain frequency of electromagnetic (EM) radiation (via 252); a probe operable (beam 270, 274) with a laser voltage probe (252) to stimulate the DUT assembly (200) with said frequency of EM radiation; and a test pattern generator (generate the test vectors not shown, see col. 3, lines 25-45) and interface system (col. 3, lines 25-45) interfacing with the DUT assembly (200), the test pattern generator and interface system operating to apply a test vector to the DUT assembly (col. 3, lines 25-45); means (via detector 260) for comparing the IC's output against expected results associated with the test vectors set; and receive a corresponding response indicative of a fault coverage (via 264).

As claims 2-4, it appears that the IC is disposed on a packaged, die, or wafer.

As to claim 5, Bruce disclose in Figs. 2-3, a probe operable (beam 270, 274) with a laser voltage probe (252) to stimulate the DUT assembly (200) with said frequency of EM radiation.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6-15, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al. (u.s.p 5,189,365), in view of Bruce (u.s.p 6,177,989).

As to claims 6-7, 10-11, 14-15, Ikeda et al. disclose wherein the stuck-at fault condition comprising a stuck-at zero and stuck-at one condition (col. 2, lines 30-35).

As to claims 8, 12, Ikeda et al. disclose in Fig. 2, Ikeda et al., disclose a method and system for measuring the fault coverage in an IC comprising the steps of: creating a stuck-at fault condition (col. 2, lines 10-12, and lines 48-50) at a select number of nodes associated with the IC; applying a test vector set (col. 2, lines 13-15 and lines 48-50) to the IC upon creating said stuck-at fault condition; comparing the IC's output against expected results associated with said test vector set (col. 2, lines 19-25 and lines 65-69); and determining fault coverage detected by the test vector set (col. 2, lines 20-25, and lines 65-69; col. 3, lines 1-6). Ikeda et al., does not teach the stimulating a select number of node associated with the IC with a certain frequency of electromagnetic (EM) radiation. However, Bruce teaches in Figs. 2-3, the stimulating a select number of node

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(204 of figure 2) associated with the IC (200 of figure 2) with a certain frequency of electromagnetic (EM) (via 252). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the system of Ikeda et al., and provides the stimulating a select number of node (204 of figure 2) with a certain frequency of electromagnetic (EM via 252) for easily detecting and analyzing each node of the IC in the inspection of the integrated circuit device.

As to claims 9, 13, Bruce discloses in Fig. 2-3, the certain frequency of electromagnetic (EM) is supplied by a laser voltage probe system (252 of figure 3).

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X Nguyen whose telephone number is (571) 272-1967. The examiner can normally be reached on 8:30am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TN

5/25/04

Ashe Kumar Sankar  
5/28/04